

When it comes to keeping hands clean, which type of cleansers should you buy for your family?

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With continued media attention and other educational campaigns on the subject, hand washing is definitely on people's minds these days. But when it comes to choosing the right soap or hand cleansers for your family, deciding which method to use, and knowing how often to wash hands, there is still confusion among consumers.

In a recent study, which appeared in *Food Protection Trends* (1), the authors examined consumer attitudes and the effectiveness of hand cleansers in the home. They conducted two separate experiments. First, they assessed consumers' attitudes and behaviors regarding hand cleansers through both telephone and paper surveys. The phone survey was done using phone numbers from local Colorado phone books and the paper survey was done using students who were enrolled in college food preparation classes. Overall, 72% of consumers surveyed for this study said they used a liquid hand cleanser in their homes. Sixty-four of them used soap containing antimicrobial ingredients, while 26% did not know what type of ingredients their home hand cleanser contained. In both surveys, consumers said that price and ability to remove bacteria were equally important. Sixty-one percent of consumers said that antibacterial soaps are much better than other hand cleansers, but in reality, they may not realize that regular soap can do the same thing (1).

In the second experiment, the researchers conducted a hand washing experiment using six laboratories of 15 students each, for a total of 90 participants. The students were divided into three groups and were assigned one of three cleansers: regular liquid hand soap (Ivory® brand, Procter and Gamble Co., Cincinnati, OH), antibacterial soap containing ~2% triclosan as well as other soap ingredients (Softsoap® brand, Colgate Palmolive Co., New York, NY), or alcohol gel containing 62% ethyl alcohol and other ingredients (Purell® brand, GoJo Industries, Inc. Akron, OH). They were given specific standardized instructions to touch an agar plate before washing their hands or rubbing alcohol on their hands. Then they followed prescribed hand-washing procedures, either rubbing their hands with either kind of soap for 20 seconds, then rinsing under warm tap water (35°C - 37° C) for 10 seconds more, or using the specified amount of hand sanitizer. After following these hand-cleansing procedures, they touched their hands to an agar plate again. The agar plates were then incubated for 48 hours at 35°C and rated for their relative colony numbers (RCN). Given the same levels of pre-treatment hand contamination, the study found no significant differences between regular and antimicrobial hand cleansers in reducing RCN. However, the alcohol gel reduced RCN values significantly more than regular and antimicrobial hand cleansers (1).

Take home message:

This study revealed that consumers often think that antibacterial soap is the best choice for removing germs from their hands, but they may not know that regular soap can do the same job.

The majority of antibacterial hand-washing products contain triclosan. Because some research has revealed that triclosan and its derivatives accumulate in the environment, the use of strong antimicrobials such as



triclosan for everyday purposes may be questionable. More research is needed on the impact of these persistent chemicals (1).

This study revealed that alcohol gel hand sanitizers are a quick and easy way to reduce germs on hands. However, if your hands are soiled with dirt and debris, hand-washing for 20 seconds with regular soap, followed by the application of alcohol gel, may help prevent the transmission of bacterial and viral infections (1).

It is important for consumers to evaluate the situation when it comes to washing to their hands (2). If your hands are visibly dirty, it is necessary to wash them for 20 seconds with regular soap and water. If your hands are not visibly dirty, if you do not have enough time, or if there is no clean water available, you can use alcohol gel to clean your hands (2).

Cautions: Most alcohol gels contain 60-90% alcohol. If these products are being used in your household, parents or caretakers need to keep these hand sanitizers well out of reach of small children at all times. Ingestion of alcohol gel sanitizer by young children could cause alcohol poisoning.

References:

1. Brown, J.M., J.S. Avens, P.A. Kandall, D.R. Hyatt, and M. B. Stone. 2007. Survey of consumer attitudes and the effectiveness of hand cleansers in the home. Food Protection Trends. 27(8)603-611.
2. Simonne, A. Hand Hygiene and Hand Sanitizers. <http://edis.ifas.ufl.edu/FY732>